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South London and Maudsley NHS
NHS Foundation Trust

Institute of Psychiatry
at the Maudsley

Patient safety in psychiatric hospitals: an overview of a research programme

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Conflict: potentially harmful events

- Aggression
- Rule breaking
- Substance/alcohol use
- Absconding/missing
- Medication refusal
- Self-harm/suicide

Containment: preventing harm

- PRN medication
- Coerced IM medication
- Special observation
- Seclusion
- Manual restraint
- Time out

Manual restraint

PRN medication

Seclusion

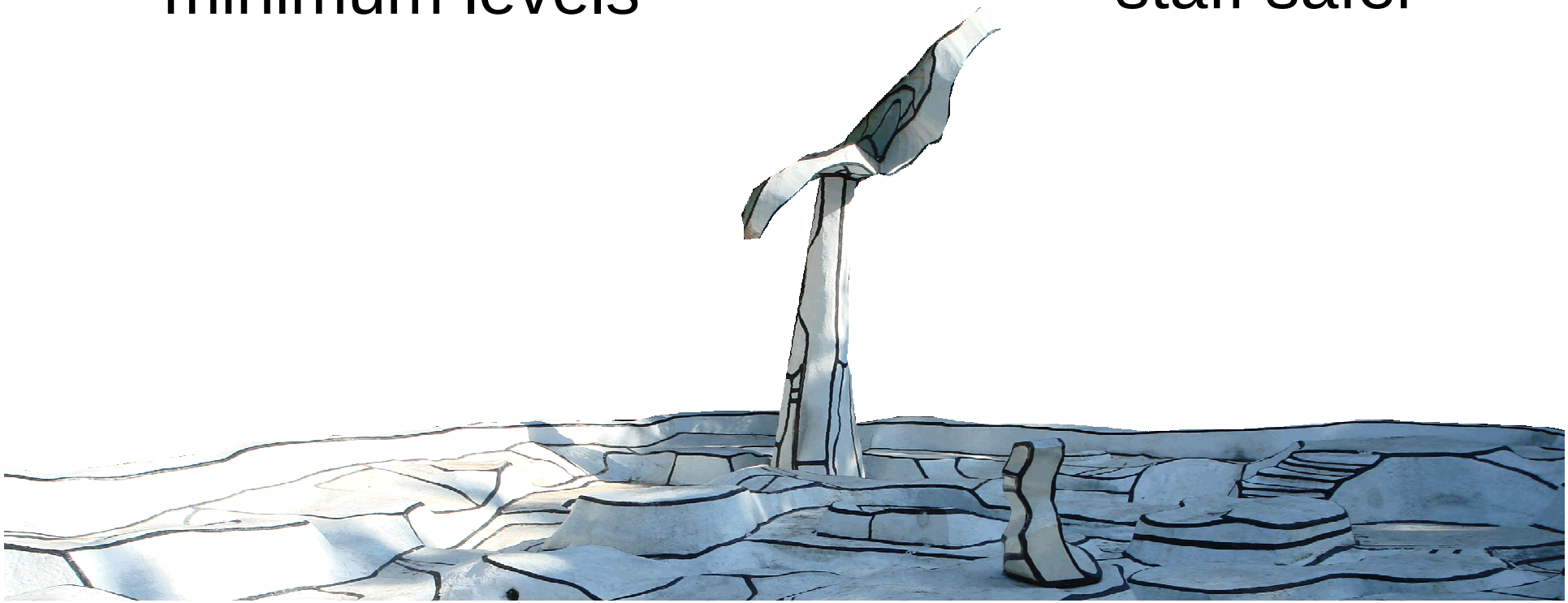
Net bed

Mechanical restraint

Time out

Finding a way

- To reduce conflict and containment to minimum levels
- To keep patients and staff safer



The first absconding study: an exploratory survey

- Profiled the absconder
- Reasons for and patterns of absconding defined an anti-absconding strategy
- Showed all conflict behaviours were likely to be related and should be studied together
- Unexplained variation in rates between equivalent wards

Analysis of official reports

- Data was provided from ward incident books from 7 mental health wards in Tower Hamlets Trust, from November 1996 to October 1997
- Mainly a simple descriptive project as a service to managers, BUT, found unexplained variation in rates between equivalent wards

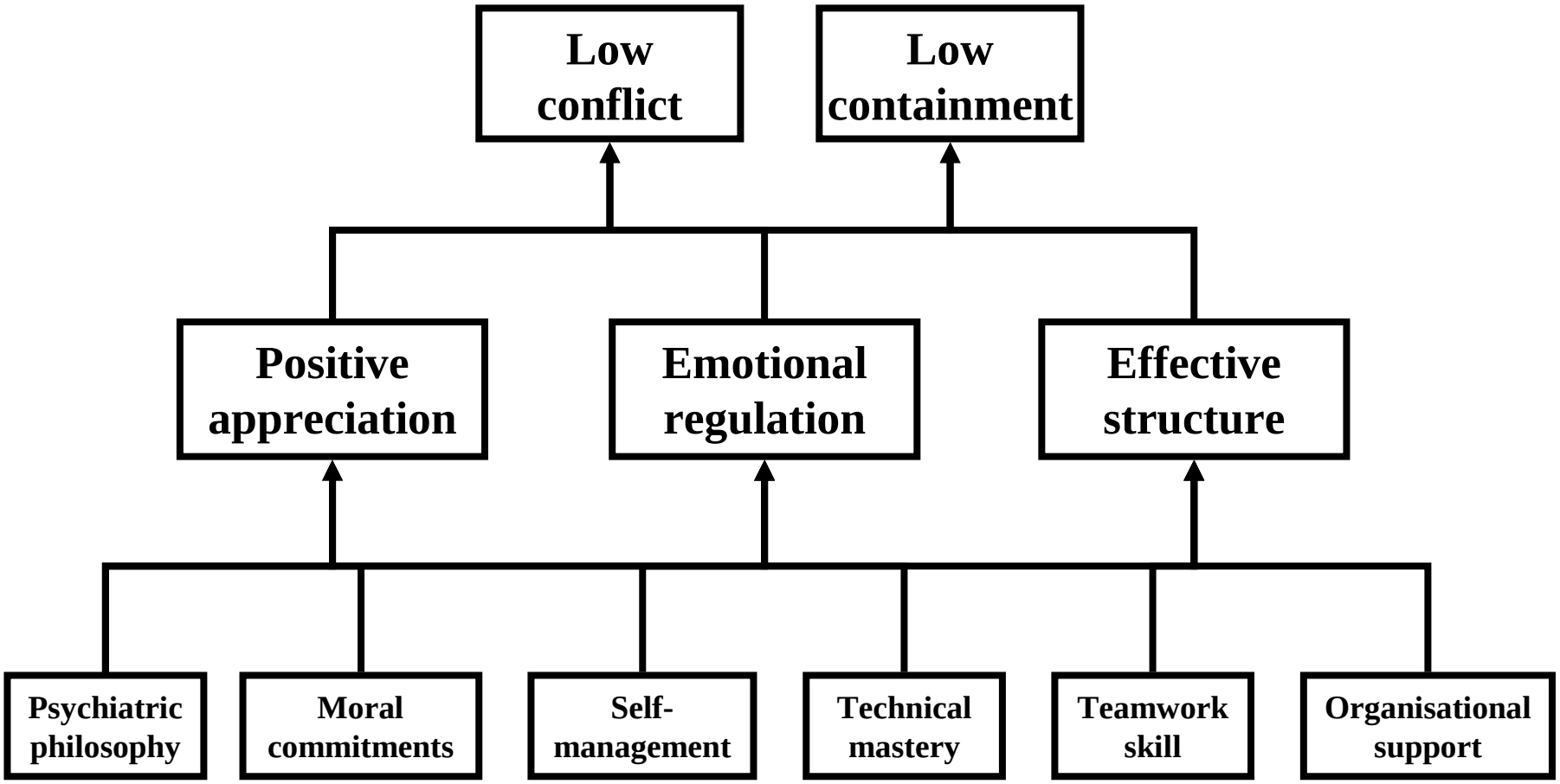
Staff Attitudes to Personality Disorder

- Questionnaires from 650 staff and interviews of 121 nurses
- Positive attitude = enjoyment, security, acceptance, purpose, enthusiasm
- Positive attitude staff could turn conflict into therapeutic opportunity
- Catalysts of conflict reduction

How?

- Psychiatric philosophy (psychosocial factors, treatment efficacy, psychological understanding, individual focus)
- Moral commitments (honesty, bravery, equality, non-judgementalism, universal humanity)
- Emotional self-management (person now, expectation, perseverance, pers/beh split)
- Technical mastery (IPS, art of confrontation)
- Teamwork skill (REP, sharing, consistency)
- Organisational support (clarity, training, CS)

The City model



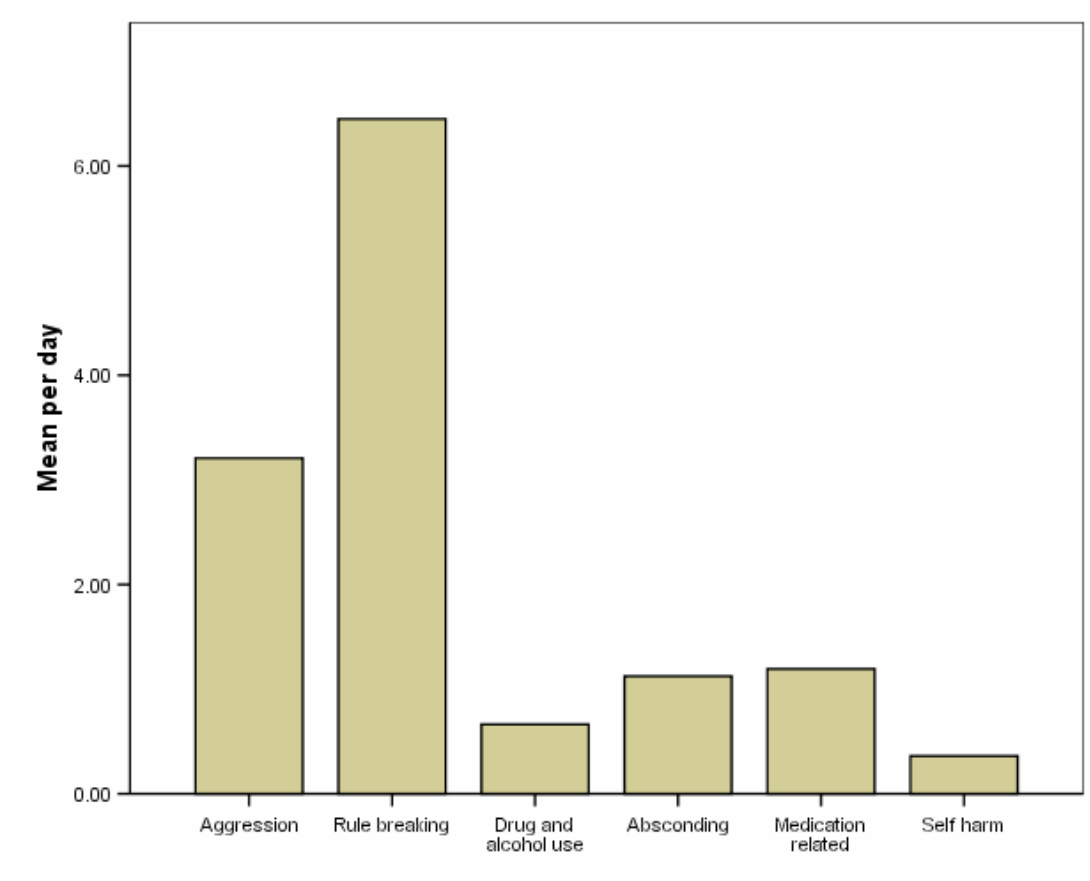
Testing times

- City 128
- City Nurses
- Cross topic literature review
- TAWS
- NPSA data analysis

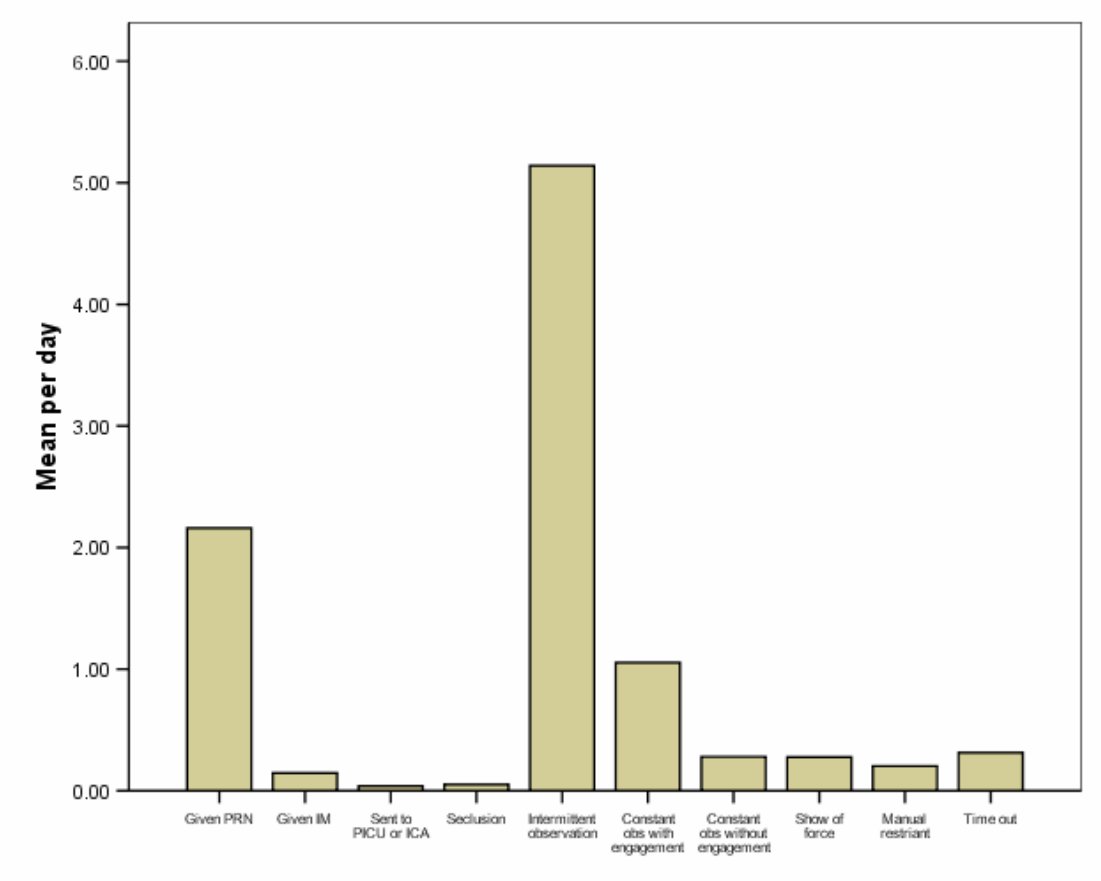
City-128: model test

- 136 wards participated (6 months), in 67 hospitals in 26 Trusts.
- PCC-SR: 47,000 end of shift reports were collected and scanned. 68 acute ward years of data
- Also information on: patients admitted, service environment, and physical environment
- Additional measures:
  - Attitude to Personality Disorder Questionnaire
  - Attitude to Containment Methods Questionnaire
  - Maslach Burnout Inventory
  - Multifactor Leadership Questionnaire
  - Team Climate Inventory
  - Ward Atmosphere Questionnaire (partial): order and organisation, program clarity, staff control

Conflict


Mean per day
6.00
4.00
2.00
0.00
Aggression
Rule breaking
Drug and alcohol use
Absconding
Medication related
Self harm

Containment



Conflict and containment

- Cronbach Alpha's (internal consistency):
  - Conflict 0.68
  - Containment 0.69
- Linear correlation between the two 0.25
- Total conflict and Total containment scores (log transformed) used a dependent variables in multiple regression, controlling for clustering by Trust

Conflict model ($r^2 = 0.60$)

- High social deprivation of catchment area
- Poor physical environment
- Proportion of beds in single rooms
- Door permanently locked versus open
- Show of force
- Manual restraint
- Proportion of staff male
- Low WAS order and organisation

Containment model ($r^2 = 0.32$)

- Medication related conflict
- Numbers of Occupational Therapists
- Proportion of staff white
- Low WAS program clarity
- Low MLQ transactional leadership

Conclusions

- Theoretical validity of total conflict and containment supported
- Working model partially confirmed (structure)
- Containment levels only partially explained by conflict levels (or vice versa)
- Caution about direction of causality, collinearity and potential for false positive findings

City Nurses

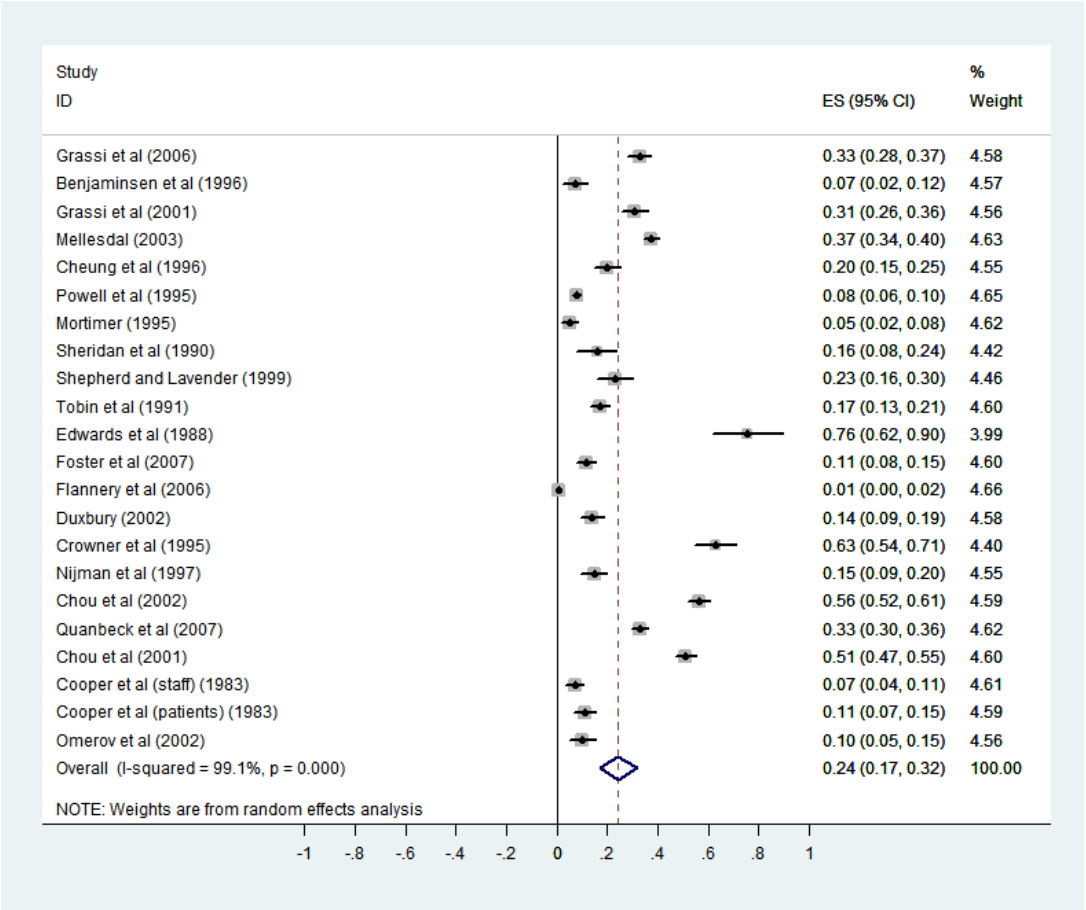
- Before and after study / Action research
- Wards volunteered and were interviewed before being accepted
- Three month baseline, one year intervention
- Two specialist ‘City Nurses’ used the City model to work with wards (i.e. expensive)
- Outcomes: PCC-SR, WAS, IOC, MSQ, MBI, APDQ
- Two phases in one NHS Trust
  - First – 2 wards
  - Second (confirmatory) 3 wards

City Nurses results

- Before and after:
  - Phase 1: conflict down 13%
  - Phase 2: conflict down 20%, containment down 18%
- Phase 2 with controls:
  - With occupancy, admissions, shift type and clustering by ward taken into account
  - No significant experimental effect found
    - Underpowered for clustered data
    - Changes on control wards (contamination?)
    - Theory wrong
- Paradox: a single ward study can be statistically powerful but completely ungeneralisable

Literature review inpt. violence

patient-patient interaction as antecedent



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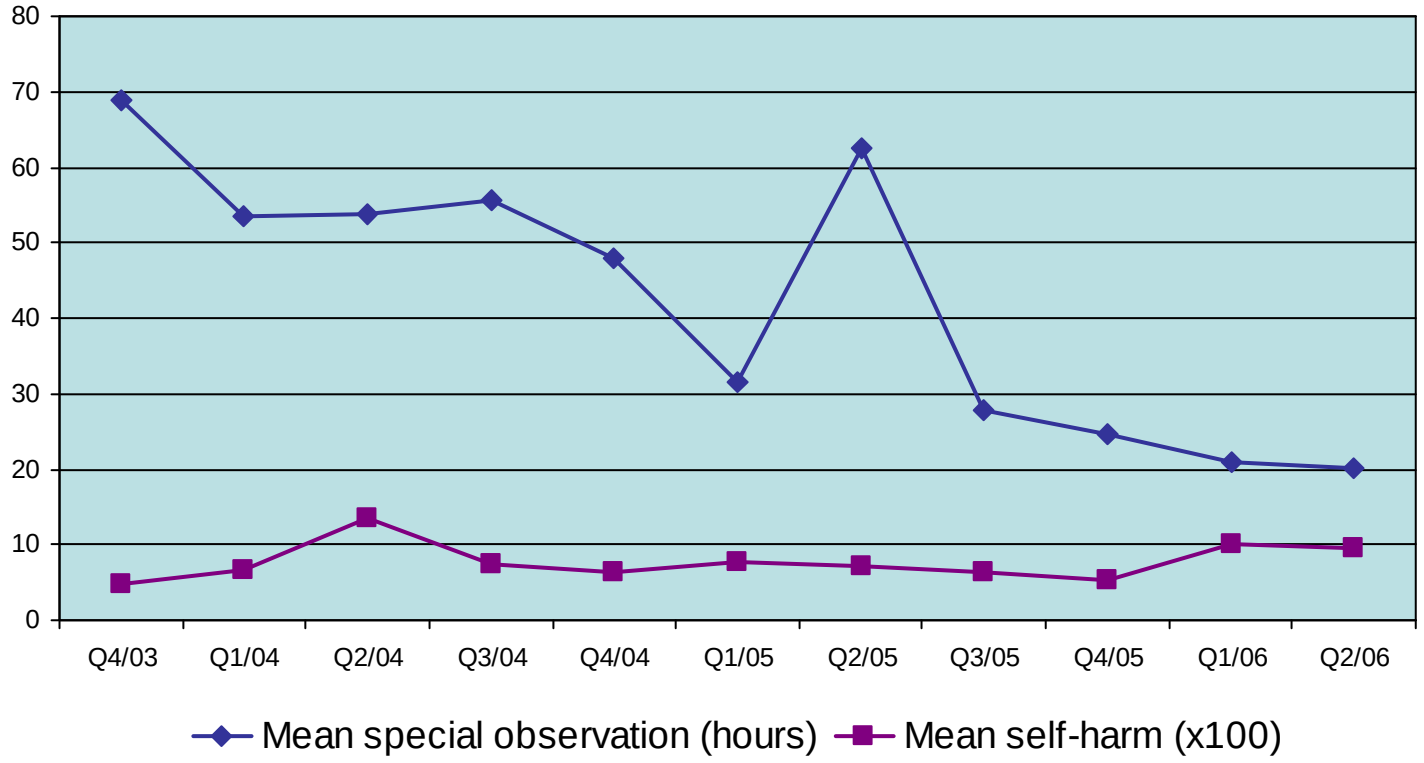
Cross section versus time
- the Tompkins Acute Ward Study -



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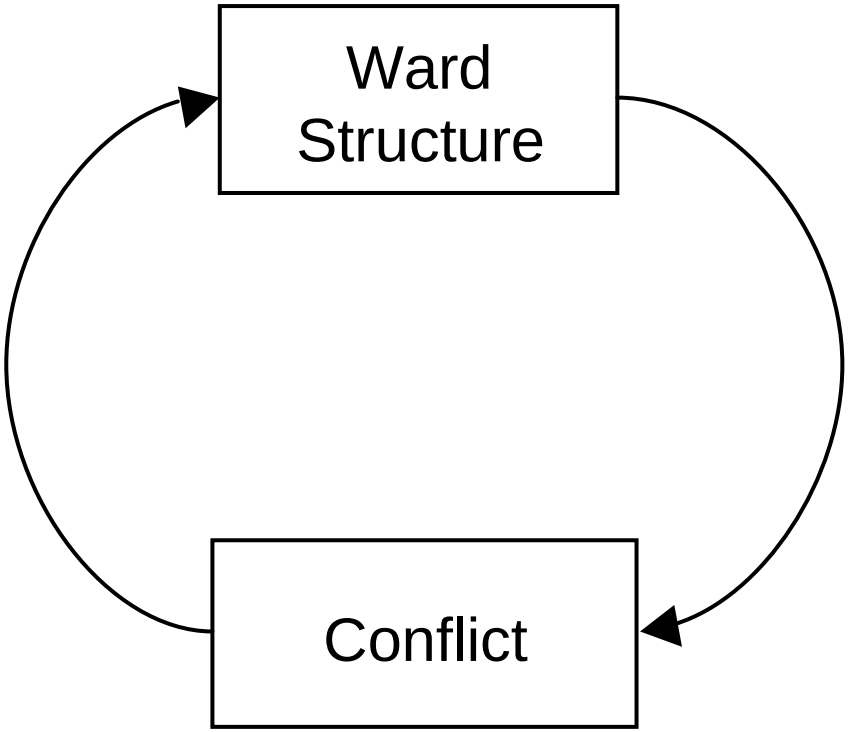


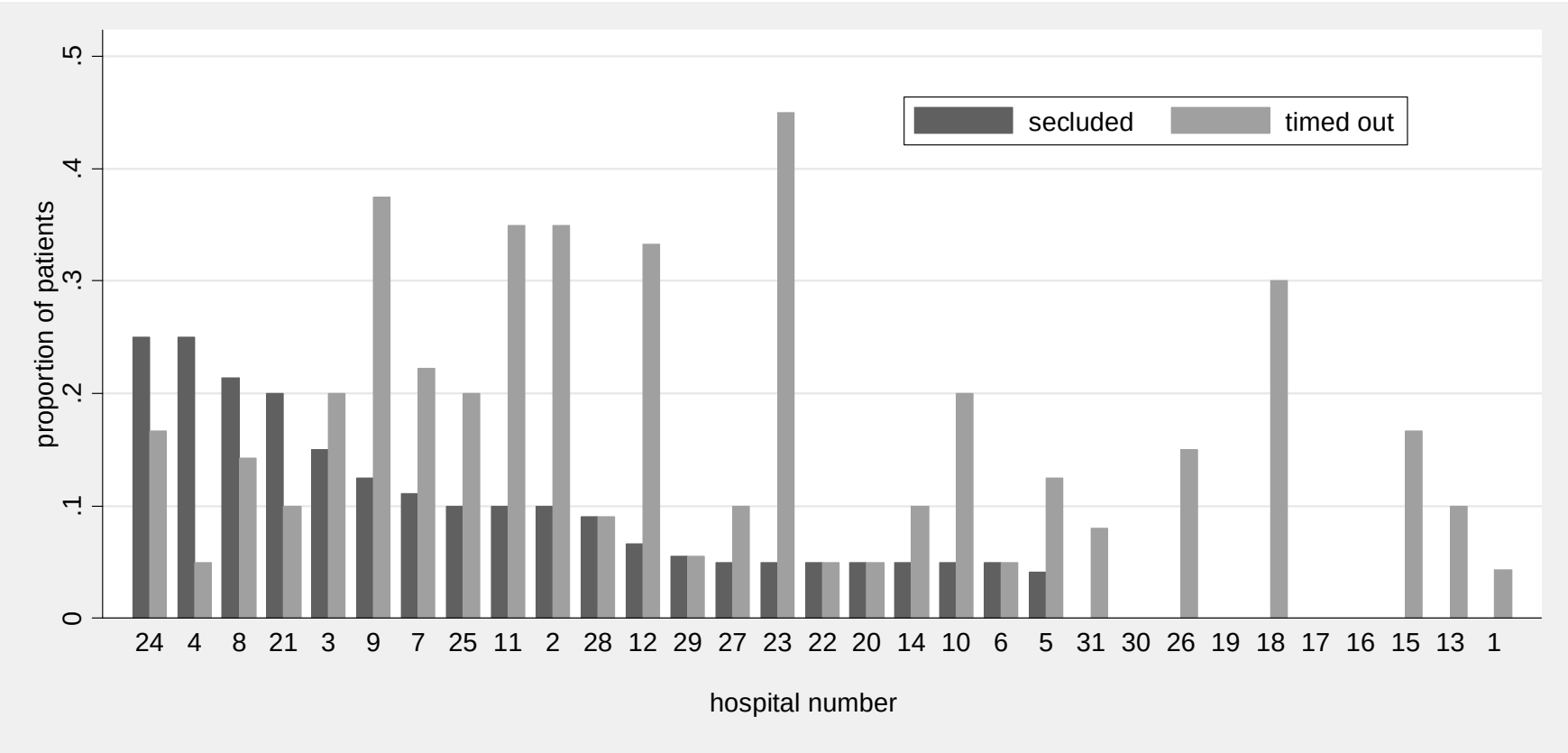
The sequence study (CONSEQ)

- The sequence or order of conflict and containment events (PCC-CN)
- First two weeks of admission
- Characteristics of patients
- This presentation: patients subject to one or more seclusion or time out episodes
- Definitions of seclusion/time out

The sample

- Acute psychiatric wards and psychiatric intensive care units
- Random sample of adult (18-65 years old) patients
- 973 too ill to approach or off the ward
- 407 refused consent
- Final sample: 522 patients on 84 wards in 31 hospital locations

Rates of seclusion and time out by hospital



n	%	Behaviour preceding seclusion
17	**29.82**	**Physical violence to others**
11	**19.30**	**Violence to objects**
7	**12.28**	**Only verbal violence**
		4/7 Secluded immediately on admission
		1/7 Verbal aggression coupled with medication refusal
		1/7 Verbal aggression in a patient with many previous verbally aggressive episodes
		1/7 Drug and alcohol consumption, coupled with a suicide attempt and enforced transfer (using restraint) to PICU
22	**38.60**	**No violence pre-seclusion**
		6/22 All events by one patient, with a history earlier in the admission of masturbating publicly (2), exposing himself (1), and non-consensual sexual touching (1). No history during the admission of any violence prior to the first few seclusions, but later on he was violent several times, having a prior history of harm to others.
		5/22 Secluded immediately on admission
		4/22 Related to absconding attempts, two involving physical struggles to detain the patient, and two returns following a successful abscond (? intoxicated)
		2/22 Same patient on two consecutive shifts directly after admission, the first after attempting to abscond, and the second after self-harming
		1/22 Aggression to objects in the immediately preceding shift and prior to transfer to PICU
		1/22 Physically violent in the immediately preceding shift
		1/22 Verbal aggression the immediately preceding shift, and history of repeated confrontations with staff over medication, several restraints and coerced IM injections prior to this seclusion
		1/22 Patient refused to get up and refused to wash
		1/22 Exposing self in public areas

Aggression types

- Time out is disproportionately used for verbal aggression (56% of aggression leading to time out is verbal, 20% verbal for seclusion),
- Seclusion for physical (49% of aggression leading to seclusion is physical, vs. 19% for time out),
- This difference is statistically significant (chi square = 18.44, $p < 0.001$).

Seclusion vs. time out
Physical violence

- 17 shifts for which seclusion was initiated after physical violence to others.
- After the seclusion was initiated, there were 3 instances of physical aggression to others during the shift concerned, 3/17 yielding a rate of 18%.
- There were 33 shifts where there was physical violence to others before time out was initiated, and after time out was started there were 2 instances, 2/33 yielding a rate of 6%.
- This difference is not statistically significant.

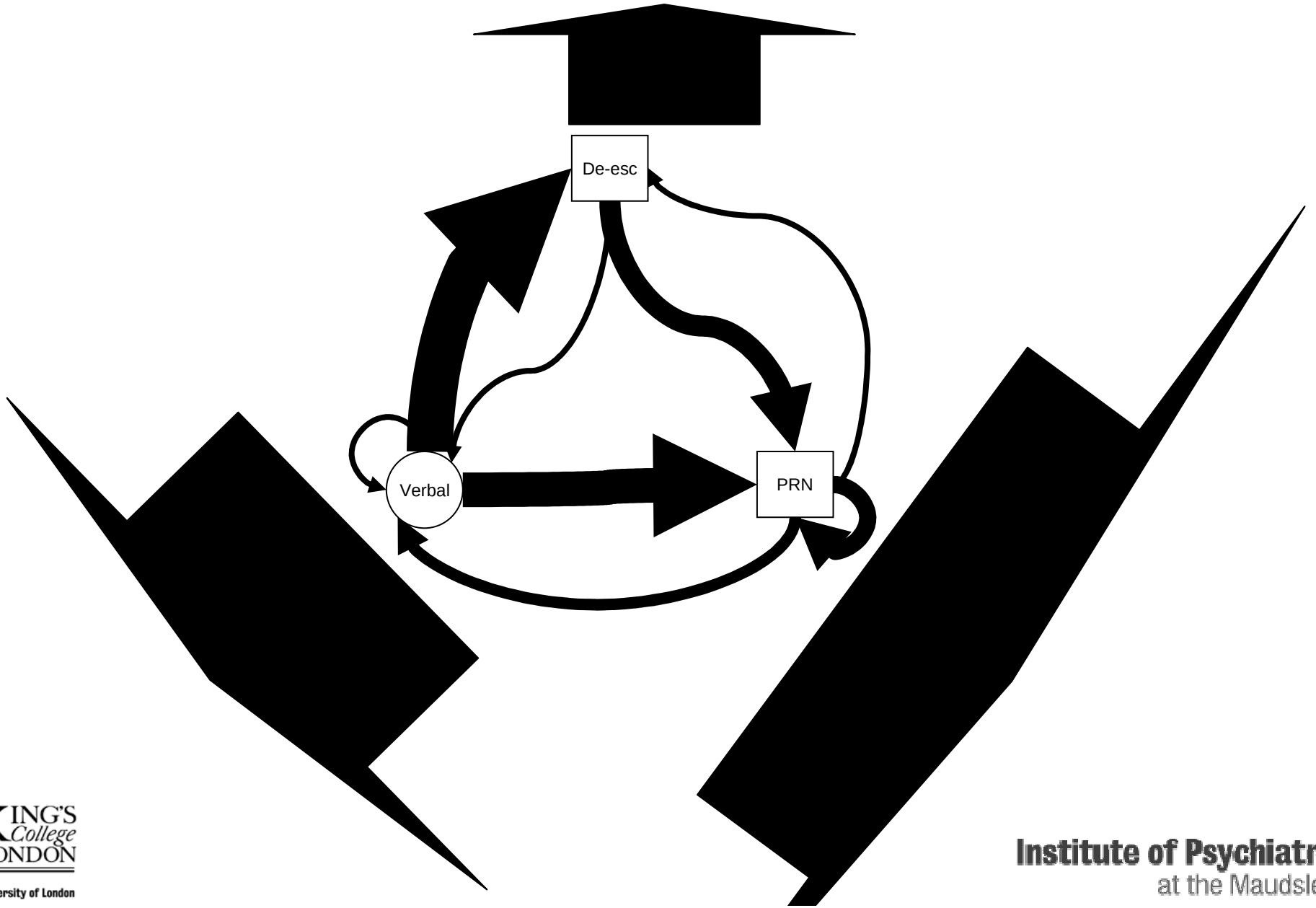
Patient characteristics

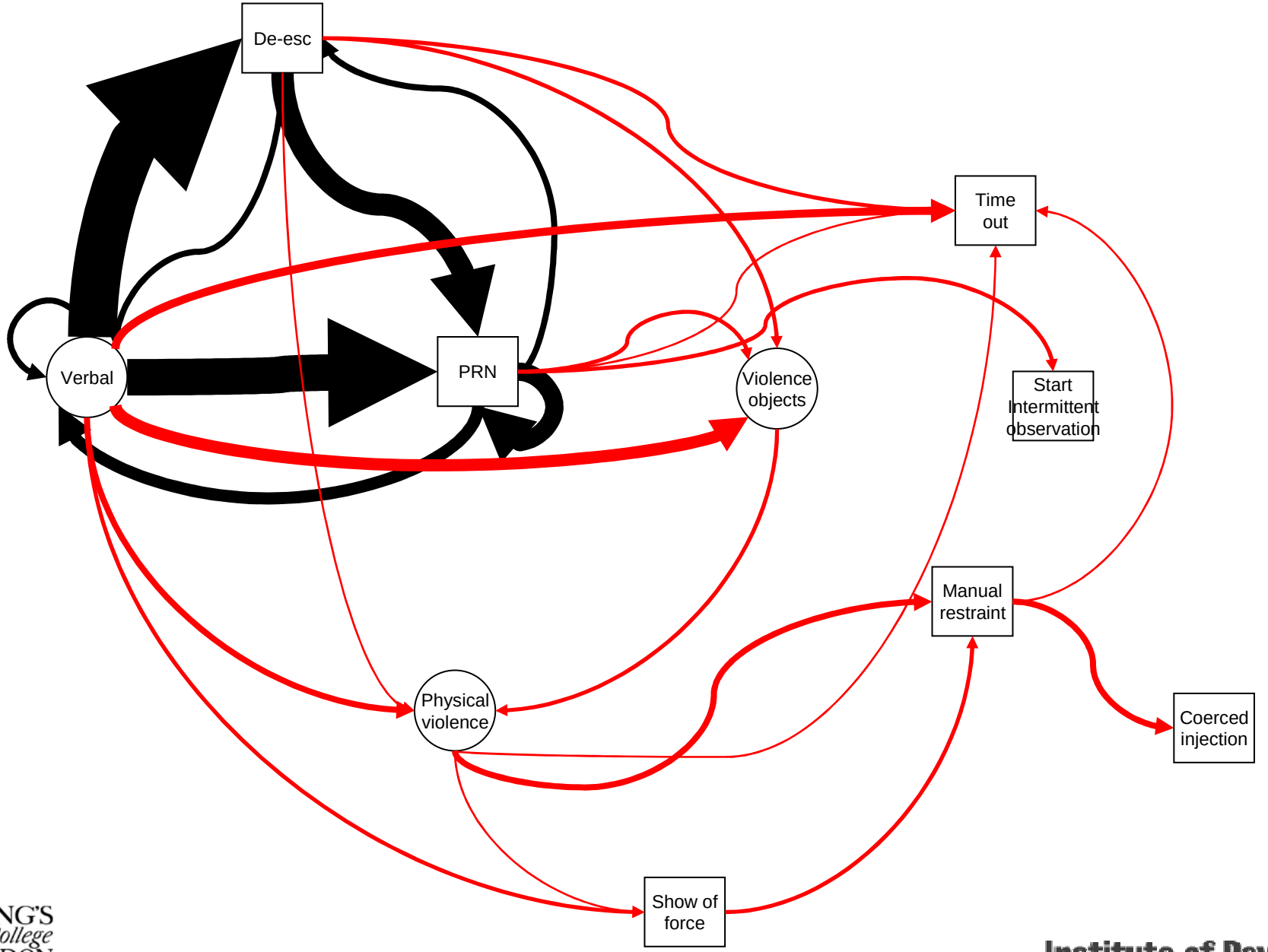
- Seclusion:
  - younger (mean age 37 vs 41 years, t = 2.21, df = 520, p =0.03),
  - more likely to have a history of drug use (chi square = 4.56, df = 1, p = 0.03),
  - more likely to have a history of harm to others (chi square = 15.43, df = 1, p < 0.001).
- Time out:
  - younger (mean age 36 vs 42 years, t = 4.16, df = 520, p < 0.001),
  - more likely to have a history of drug use (chi square = 8.57, df = 1, p = 0.003),
  - more likely to have a history of harm to others (chi square = 15.43, df = 1, p < 0.001).
  - More likely to be from an ethnic minority (chi square = 14.71, df = 1, p < 0.001).

Conclusions

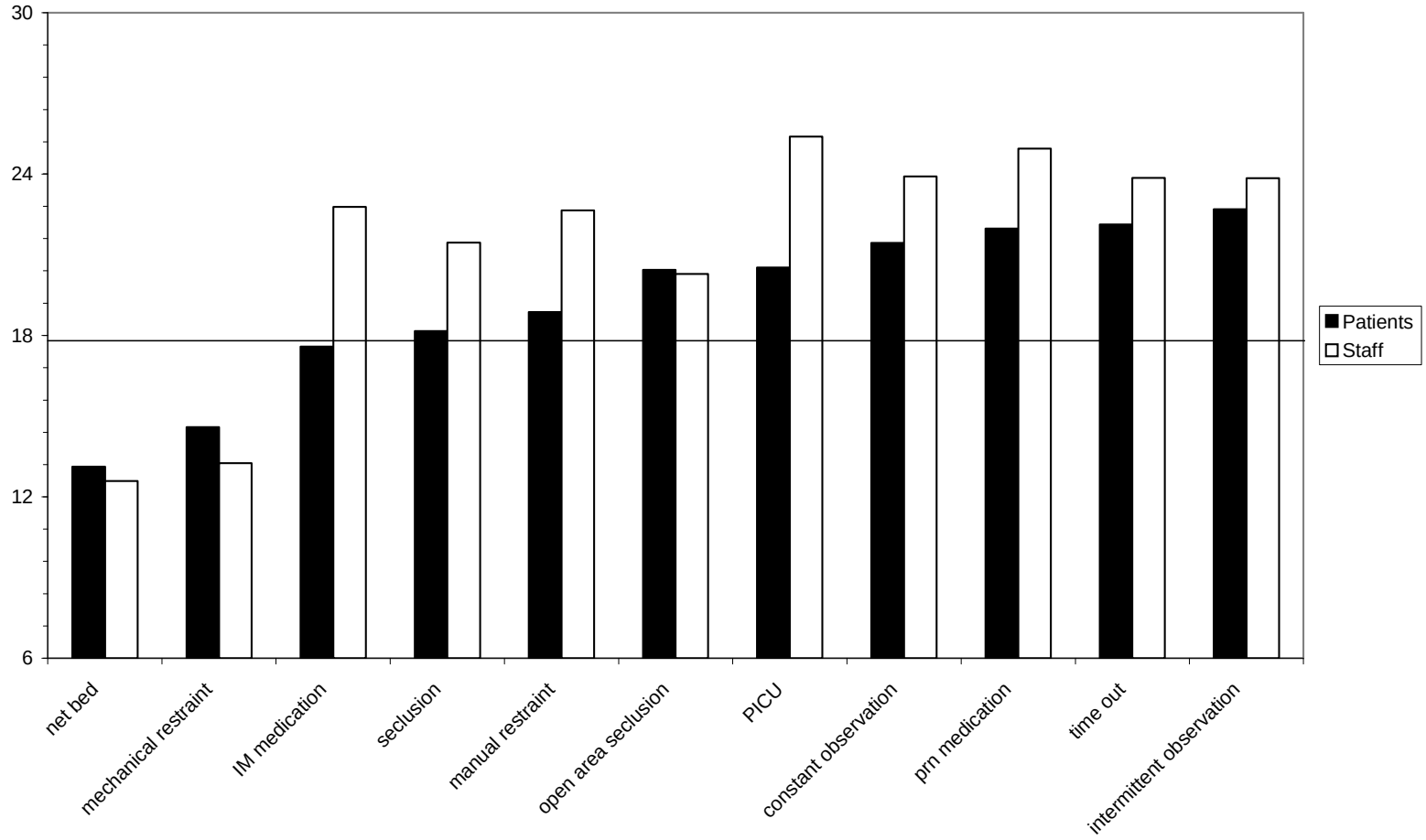
- Although seclusion is more frequently used for physical violence to others, the outcome of time out in these circumstances is just as good
- Time out is used for the same sort of patients as seclusion
- Patients and staff approve more of time out
- Some seclusion may not be necessary
- There is scope for seclusion reduction in the UK, especially in some hospitals

1 cm = 200 transitions

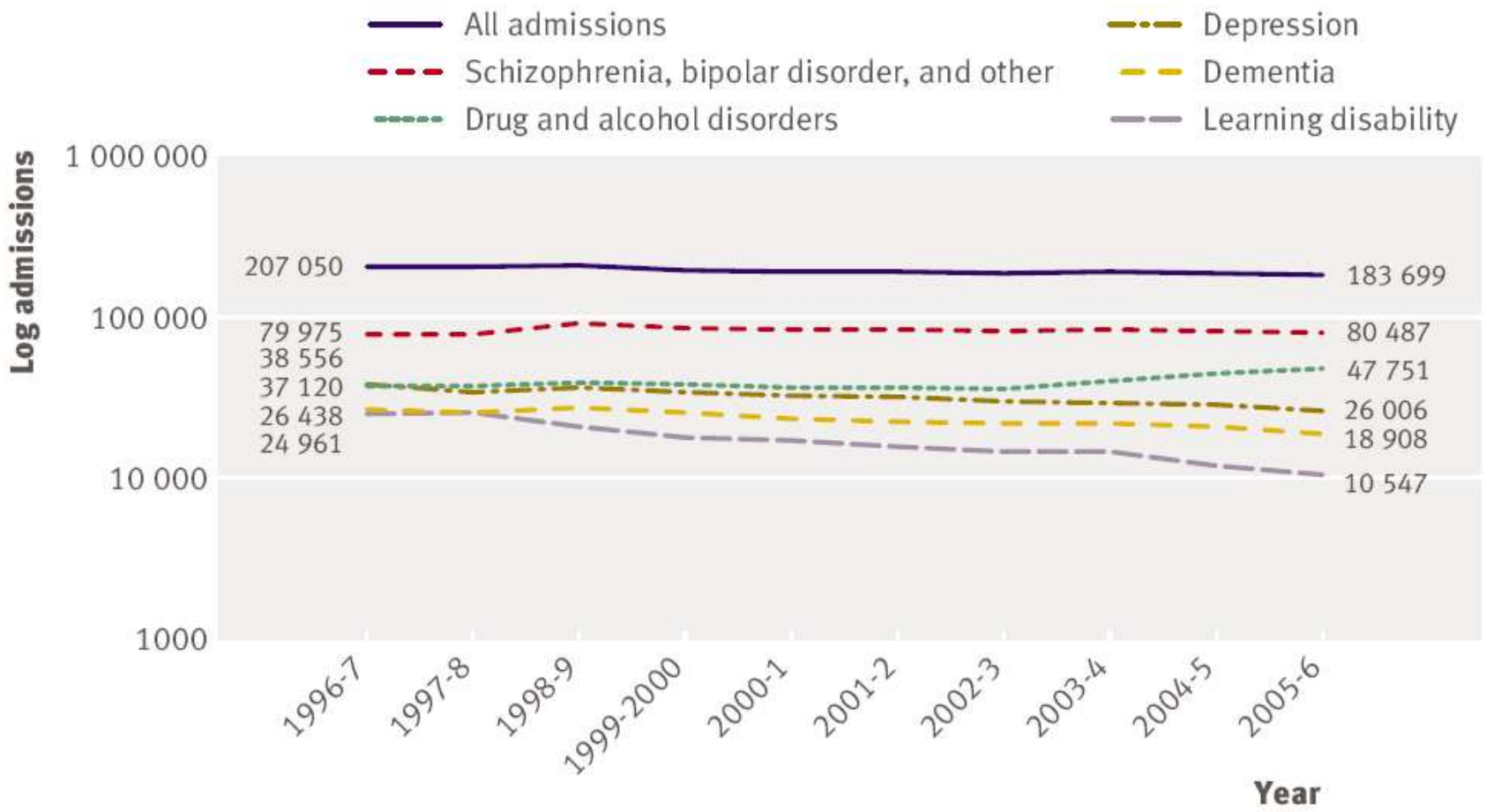




Acceptability of containment



Time and change



Patrick Keown, Gavin Mercer and Jan Scott *BMJ* 2008;337;a1837 doi:10.1136/bmj.a1837

Complexity

Next?

- Safewards cluster RCT
- Model still incomplete in some respects
- Further studies:
  - HICON
  - Nurse interaction techniques
  - Agitated intoxication
- Taking the model into general hospitals, schools, prisons etc.

Aspirations

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